

AMENDMENTS TO THE CLAIMS:

Claim 1. Cancelled.
Claim 2. Cancelled.
Claim 3. Cancelled.
Claim 4. Cancelled.
Claim 5. Cancelled.
Claim 6. Cancelled.
Claim 7. Cancelled.
Claim 8. Cancelled.
Claim 9. Cancelled.
Claim 10. Cancelled.
Claim 11. Cancelled.
Claim 12. Cancelled.
Claim 13. Cancelled.
Claim 14. Cancelled.
Claim 15. Cancelled.
Claim 16. Cancelled.
Claim 17. Cancelled.
Claim 18. Cancelled.
Claim 19. Cancelled.
Claim 20. Cancelled.
Claim 21. Cancelled.
Claim 22. Cancelled.
Claim 23. Cancelled.
Claim 24. Cancelled.
Claim 25. Cancelled.
Claim 26. Cancelled.
Claim 27. Cancelled.
Claim 28. Cancelled.

Claim 29. Cancelled.

Claim 30. Cancelled.

Claim 31. Cancelled.

Claim 32. Cancelled.

Claim 33. Cancelled.

Claim 34. Cancelled.

Claim 35. Cancelled.

Claim 36. Cancelled.

Claim 37. Cancelled.

Claim 38. Cancelled.

Claim 39. Cancelled.

Claim 40. (previously added) A semiconductor light bulb comprising:

an enclosure, said enclosure being fabricated from a transparent material through which visible light may pass, said enclosure being generally impermeable to gas,

a base to which said enclosure is mounted, said base including a fitting of appropriate shape for insertion into a light bulb socket,

an interior volume within said enclosure,

a heat sink located in said interior volume, said heat sink being capable of drawing heat from a vertical cavity surface emitting laser mounted on said heat sink,

a plurality of vertical cavity surface emitting lasers, at least some of said vertical cavity surface emitting lasers being capable of emitting light having a wavelength in the range of about 200 nanometers to about 700 nanometers, at least two of said vertical cavity surface emitting lasers being mounted on said heat sink without any module physically isolating them from each other,

a thermoelectric cooler located on said heat sink, said thermoelectric cooler experiencing a decrease in temperature when exposed to a voltage,

an air entrance, an air exit, and an interior airflow path through said heat sink,

said air entrance and air exit being proximate a fitting for electrical connection to a light bulb socket,

said airflow path proceeding from said air entrance toward the top of the bulb, turning 90 degrees to move laterally a predetermined distance, then turning 90 degrees to move down toward the bottom of the bulb, and out said air exit,

said airflow path permitting air to enter said heat sink through said air entrance, absorb heat from said heat sink, and exit said heat sink through said air exit,

air located within said enclosure,

a fan within said enclosure for bringing air into said air entrance and forcing air through said airflow path and through said air exit,

an electrical connection between at least two of said vertical cavity surface emitting lasers,

an AC/DC converter,

a fitting for electrical connection to a light bulb socket,

electrical connection between said AC/DC converter and said vertical cavity surface emitting lasers, and

electrical connection between said fitting and said AC/DC converter.

Claim 41. (newly added) A device as recited in claim 40 wherein at least one of said vertical cavity surface emitting lasers includes a substrate on which epitaxial layers are grown.

Claim 42. (newly added) A device as recited in claim 41 further comprising a buffer layer located on said substrate, said buffer layer serving to mitigate differences in material properties between said substrate and other epitaxial layers.

Claim 43. (newly added) A device as recited in claim 42 further comprising:

a first cladding layer serving to confine electron movement within the chip, said first cladding layer being adjacent said buffer layer,

an active layer, said active layer emitting light when electrons jump to a valance state,

a second cladding layer, said second cladding layer positioned so that said active layer lies between cladding layers,

a first and a second reflective layer, each of said first and second reflective layers being

located on opposite sides of said active layer, said reflective layers serving to reflect light emitted by said active layer, and

a contact layer on which an electron may be mounted for powering said semiconductor.

Claim 44. (newly added) A device as recited in claim 41 wherein said substrate is selected from the group consisting of Si, GaAs, GaN, InP, sapphire, SiC, GaSb, InAs.

Claim 45. (newly added) A device as recited in claim 41 wherein at least one of said epitaxial layers includes a material selected from the group consisting of GaN, AlGaN, AlN, AlGaIn, GaInN, and GaInN.

Claim 46. (newly added) A device as recited in claim 40 further comprising:
a luminous powder coating on the interior of said enclosure.